

## **REMARKS**

Claims 1-19 are all the claims pending in the application. The Examiner rejects claims 1-4, 6-9, 11-14, and 16-19 under 35 U.S.C. §102(e) as being anticipated by Hakkinen et al. (US 7,095,290), and claim 10 as being anticipated by Willenegger (6,996,069). Claims 5 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Applicant amends claims 1, 10 and 11, and cancels claims 5 and 15.

Applicant appreciates acknowledgement of foreign priority under 35 U.S.C. §119(a)-(d).

Applicant submits a newly executed declaration in compliance with 37 C.F.R. § 1.67(a) identifying the application by application number and filing date.

### **102(e) Rejections Hakkinen Reference**

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *See*, MPEP 2131.

The present invention relates to a radio communication system and, more particularly, to a discontinuous transmission (DTX) bit processing method for an adaptive multirate modulation. In the multirate modulation of MQAM, 'M' is the exponentiation value of 2. Accordingly, 1 to m DTX bits can be inserted into one symbol. DTX bits can be positioned in the symbol modulated by MQAM according to the number of DTX bits. The symbol in which M bits are DTX bits is mapped to the origin of the IQ plane and the symbol including DTX bit(s) less

than M are mapped to a predetermined signal point on an IQ plane. The IQ plane is defined by averaging vectors of the signal points. The bits corresponding to the non-DTX bits of the symbol are identical with each other, in consideration of the quadrants to which the signal points are located, for example.

#### Claims 1 and 11

The Examiner rejects independent claims 1 and 11 as being anticipated by Hakkinen. Hakkinen relates to communication network and communication system, and in particular, to the generation of signal modulation in a communication system. Constellation points of higher order modulation are mapped to inputs (0, 1 or DTX (Discontinuous Transmission mode)) of weighted QPSK modulators. After modulation and spreading the QPSK symbols are summed to compose higher order modulation symbols. Because the QPSK modulated sequences have same spreading code, and spreading is linear operation, they can be summed.

The Examiner indicated that the limitation of dependent claims 5 and 15 is allowable over Hakkinen. Applicant amends independent claims 1 and 11 with the allowable limitations of claims 5 and 15 respectively, and believes claims 1 and 11, as amended, are allowable over Hakkinen.

Because Hakkinen does not teach each limitation of claims 1 and 11 as amended, applicant believes these claims are in condition for allowance, and respectfully requests reconsideration and withdrawal of the rejections, and early allowance of the claims.

#### **102(e) Rejections Willenegger Reference**

#### Claim 10

The Examiner rejects independent claim 10 as being anticipated by Willenegger. Willenegger relates to data communication, to novel and improved

techniques for controlling transmit power of multiple channels in a CDMA communication system (e.g., a W-CDMA system). Willenegger does not teach "a discontinuous transmission (DTX) insertion module for inserting DTX bits into the radio frames of the CCTrCH, wherein a symbol is mapped to a signal point in which bits are identical with the bits consisting of the symbol on an IQ plane, when the symbol has no DTX bits."

Willenegger teaches "[o]n the downlink, unused bit positions are filled with discontinuous transmission (DTX) bits, in block 220. The DTX bits indicate when a transmission should be turned off and are not actually transmitted. The bits are then interleaved in accordance with a particular interleaving scheme to provide time diversity, in block 222. ... the bits within the interval are segmented and mapped onto consecutive transport channel radio frames, in block 224." See, col. 4: 37-49.

Because Willenegger does not teach all the elements of claim 10, as amended, Willenegger does not anticipate claim 10. Applicant believes claim 10 is in condition for allowance, and respectfully requests reconsideration and withdrawal of the rejections, and early allowance of the claims.

Dependent claims 2-4, 6-9, 12-14, and 14-19

Each of the above listed dependent claims depends from a now allowable independent claim and is therefore allowable for at least this reason. Applicant respectfully requests reconsideration and withdrawal of the rejections.

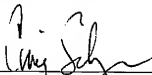
### CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain at issue which the Examiner feels may be best resolved through a telephone interview, the Examiner is kindly invited to contact the undersigned at (213) 623-2221.

Respectfully submitted,  
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Enclosure: Declaration